

Revised 01/17/02

1. Date(s) of Inspection:
2. CE Inspector(s):
3. General Laboratory Information:
  - a. Point of Contact(s):
  - b. Business Name:
  - c. Owner(s):
  - d. Street Address:
  - e. City, State, Zip Code:
  - f. Phone Number:
  - g. Years in Business:
  - h. Employees:
    - (1) Professional:
    - (2) Technical:
    - (3) Clerical:
  - i. Full-time Laboratory Personnel:
  - j. Testing Area (ft<sup>2</sup>):
  - k. Type of Building:
    1. Offsite/Portable Laboratory:
4. Specific Laboratory Information:
  - a. Type of services offered:
    - (1) Aggregate: \_\_\_\_
    - (2) Bituminous: \_\_\_\_
    - (3) Concrete: \_\_\_\_
    - (4) Rock: \_\_\_\_
    - (5) Soil: \_\_\_\_
  - b. Proficiency Sample Programs:
    - (1) Aggregate: \_\_\_\_
    - (2) Bituminous: \_\_\_\_
    - (3) Concrete: \_\_\_\_
    - (4) Soil: \_\_\_\_

ADDITIONAL COMMENTS:

c. Current Reference Material:

- (1) ASTM Standards: \_\_\_\_\_
- (2) AASHTO Standards: \_\_\_\_\_
- (3) CE CRD Handbook: \_\_\_\_\_
- (4) CE Engineer Manuals: \_\_\_\_\_
- (5) CE Rock Testing Handbook: \_\_\_\_\_
- (6) Contract Specifications: \_\_\_\_\_
- (7) Military Specifications: \_\_\_\_\_
- (8) Federal Specifications: \_\_\_\_\_

5. Exit Briefing Attendees:

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_
- (5) \_\_\_\_\_
- (6) \_\_\_\_\_

ADDITIONAL COMMENTS:

## PERSONNEL QUALIFICATIONS

7.1. Engineer or Scientist in Charge	Expertise / Years Experience	Education	Registration / States
7.2. Supervising Lab Technician	Expertise / Years Experience	Education	Certifications
7.3. Supervising Field Technician	Expertise / Years Experience	Education	Certifications

## TECHNICAL STAFF

7.4. Laboratory Technicians	Expertise/ Years Experience	Current ACI Field/Lab Certification	Current NICET Level Certification	Current Nuclear Certification
7.4. Field Technicians	Expertise/ Years Experience	Current ACI Field/Lab Certification	Current NICET Level Certification	Current Nuclear Certification

## ACCREDITATIONS

	AASHTO	A2LA	CMEC	NVLAP
Current Date Accred.				
Expiration Date				

## INSPECTIONS

Authority	Date of Insp.	Aggregate	Bituminous	Concrete	Rock	Soil
AMRL						
CCRL						
USACE						

ADDITIONAL COMMENTS:

**8.0 QUALITY SYSTEM CRITERIA**

(ASTM C 1077, D 3666, D 3740, E 329)

Note: A "D" indicates a deficiency exists and "S" denotes satisfactory

8.1.1. Quality Manual (QM):

- a. Does the laboratory maintain a QM?.....
- b. Does each document in QM indicate its preparation or revision date?.....
- c. Is the QM available for use by the laboratory staff?.....

8.1.2. Quality Management:

- a. Who is responsible for determining if quality system implementation are being conducted according to the QM? Name:.....
- b. Does this individual have access to top management?.....

8.1.3. Laboratory Procedure Manual:

- a. Does the laboratory have a laboratory procedure manual outlining the methods for each customary test or service provided?.....

8.1.4. Equipment Calibration and Verification (see tables):

- a. Does the laboratory calibrate/verify all significant testing equipment?.....
- b. Is newly acquired equipment without manufacturers' certification calibrated before being placed into service?.....
- c. Does the laboratory have detailed written procedures for all in-house calibration and verification activities?.....
- d. Do these procedures indicate the equipment required to perform the calibration?.....

8.1.5. Equipment Calibration and Verification Records (see tables):

Does the laboratory maintain calibration and verification records which include the following information:

- 8.1.5.1. Detailed results of the calibration performed (dimensions, mass, force, time, etc.)?.....
- 8.1.5.2. Description of the equipment calibrated/verified including model and serial number?.....
- 8.1.5.3. Date the calibration/verification was performed?.....
- 8.1.5.4. Identification of the person performing the calibration/verification?.....
- 8.1.5.5. Identification of the calibration/verification procedure used?.....
- 8.1.5.6. The previous and next due dates of calibration/verification?.....
- 8.1.5.7. Identification of any in-house calibration device used?.....

8.1.6. Inspection of Facilities:

- a. Does the laboratory have its facility inspected at intervals of not more than 3 years by a qualified national authority (AMRL and/or CCRL)?.....
- b. Does the laboratory submit to the qualified national authority a written report documenting how any deficiencies were corrected within 30 days of receipt of the evaluation report?.....

8.1.7. Proficiency Sample Testing:

- a. Does the laboratory participate in a formal proficiency sample program (AMRL or CCRL), in-house program, or independent third party program?.....

8.1.8. External Audit Records:

- a. Does the laboratory maintain records of any external audits and documentation describing how the deficiencies were corrected?.....

ADDITIONAL COMMENTS:

8.1.9. Proficiency Sample Records:

- a. Does the laboratory retain results of participation in proficiency sample programs including data sheets, summary reports, and documentation describing steps taken to determine the cause of poor results and corrective actions taken?.....

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8.1.10. Test Methods and Procedures:

- a. Does the laboratory maintain copies of standard and non-standard procedures for testing performed?.....
- b. Are these procedures current?.....
- c. Are the procedures readily accessible to employees performing the work?.....

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8.1.11. Test Records:

- a. Does the laboratory maintain test records which clearly present the following information:
- (A) Name and address of the testing laboratory?.....
- (B) Identification of the report and the date issued?.....
- (C) Name and address of the client?.....
- (D) Project identification?.....
- (E) Description and identification of the test sample?.....
- (F) Date of receipt of the test sample?.....
- (G) Date test was performed?.....
- (H) Identification of the standard test method used and any notation of deviations from the standard?.....
- (I) Test results and other pertinent data required by the standard test method?.....
- (J) Identification of any test results obtained from tests performed by a subcontractor?.....
- (K) The name of the person(s) accepting technical responsibility for the test report?.....
- (L) Sample and field identification/location information?.....

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8.1.12. Records Retention:

- a. Does the laboratory retain the following records in a secure location for a minimum of 3 years pertaining to:
- (1) Testing?.....
- (2) Equipment calibration and verification?.....
- (3) Test reports?.....
- (4) Internal quality system reviews?.....
- (5) Proficiency sample testing?.....
- (6) Test technician training and evaluation?.....
- (7) Personnel?.....

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ADDITIONAL COMMENTS:

**9.0 QUALITY MANUAL (QM) REQUIREMENTS**

(ASTM C 1077, D 3666, D 3740, E 329)

Note: A "D" indicates a deficiency exists and "S" denotes satisfactory

9.1.1. Organization and Organizational Policies:

- 9.1.1.1. Legal name and address of the laboratory, or that of main office or company, if different?.....
- 9.1.1.2. Ownership and management structure of the laboratory including names, affiliations and positions of principal officers and directors?.....
- 9.1.1.3. Organization chart showing relevant internal organizational components?.....
- 9.1.1.4. List of the applicable dates of qualifications, accreditation, and recognition by others?.....

9.1.2. Staff:

- 9.1.2.1. Outline/chart showing operational personnel positions & their lines of authority & responsibility?.....
- 9.1.2.2. Position Descriptions: (Note: A reference to where position descriptions are found is acceptable if they are not in QM).....
- (1) Position descriptions for each technical operational position shown on the laboratory's organization chart?.....
- (2) Identify the position?.....
- (3) Describe the duties associated with the position?.....
- (4) Describe the required skills, education and experience?.....
- (5) Indicate the supervision exercised and received?.....
- 9.1.2.3. Biographical Sketches: (Note: A reference to where biographical sketches are found is acceptable if they are not in QM).....
- (1) Brief biographical sketches for supervisory staff involved in testing areas covered by scope of quality system evaluation?.....
- (2) Indicate education and work experience?.....
- (3) Indicate license and certifications?.....
- (4) Indicate current position?.....
- 9.1.2.4. Methods of Training:
- (1) Describe the methods used to ensure that all laboratory technical staff are trained and qualified to perform tests?.....
- (2) Indicate what position(s) or employee(s) is responsible for the training program and maintenance of records?.....
- 9.1.2.5. Methods to Evaluate Staff Competency:
- (1) Describe the methods used to evaluate staff competency to ensure that each test covered by the scope of quality system evaluation is performed in accordance with standard procedures?.....
- (2) Indicate frequency of evaluations?.....
- (3) Indicate what position(s) or employee(s) is responsible for evaluating staff competency and maintenance of records?.....
- 9.1.2.6. Sample form(s) used to record results of training and competency evaluation activities?.....
- (1) Include a field for entering name of trainee?.....
- (2) Include a field for entering name of evaluator?.....
- (3) Indicate test method(s) evaluated?.....
- (4) Include a field for indicating date activities took place?.....
- (5) Provide a field for recording results of training or evaluation activity?.....

ADDITIONAL COMMENTS:

- 9.1.3.1. Inventory: (Note: A reference to where the inventory is found is acceptable if it is not in QM).....
- a. Inventory of major sampling, testing, calibration and verification equipment associated with test methods covered by scope of quality system evaluation?.....
- b. The following items should be included for each piece of major equipment:
- (1) Name of equipment?.....
- (2) Manufacturer?.....
- (3) Model and serial number?...\*\*.....
- (\*\*Note: An identification number assigned by the laboratory or other unique identifying information may be substituted for the model and serial number if this is the practice normally followed by the laboratory.
- 9.1.3.2. Equipment Calibration and Verification:
- 9.1.3.2(1). List(s) giving general description of equipment for performing tests covered by scope of quality system evaluation which require calibration/verification?.....
- a. Does the information for each item listed include:
- (1) Interval of calibration/verification?.....
- (2) Reference to calibration/verification procedure used?.....
- (3) Location of calibration/verification records?.....
- 9.1.3.2(2). Document describing laboratory's method for ensuring that calibration/verification procedures are performed for all required equipment at specified intervals?.....
- a. Does the document include:
- (1) Name(s) of individual(s) responsible for ensuring that calibration/verification activities are carried out?.....
- (2) Procedures for handling equipment that is new, removed from service, out of calibration, or defective?.....
- 9.1.3.2(3). In-house equipment calibration/verification procedures, when they cannot be referenced in applicable standards, or has reference to their location in the laboratory?.....
- 9.1.3.2(4). Certificates or other documents that establish traceability of in-house equipment or reference standards used for calibration/verification or has reference to their location in the laboratory?...
- 9.1.4. Test Records and Reports: (Note: Printouts showing typical test records are acceptable if the laboratory uses electronic media for storage)
- 9.1.4.1. Describe methods used by the laboratory to produce test records and to prepare, check and amend test reports?.....
- 9.1.4.2. Contain typical test report forms which illustrate the manner in which test results and supporting information are documented?.....
- 9.1.5. Sample Management:
- a. Contain a document describing procedures(s) for sample identification, storage, retention, & disposal?.....
- 9.1.6. Diagnostic and Corrective Action:
- 9.1.6.1. Description of participation in proficiency sample and on-site inspection programs?.....
- (1) Methods to identify poor results?.....
- (2) Procedures followed when poor results and deficiencies occur?...
- 9.1.6.2. Outline the method(s) used in responding to external technical complaints?.....
- 9.1.7. Internal Quality System Review:
- (1) Description of the scope of quality system reviews?.....
- (2) Indicate frequency of reviews?.....
- (3) Identify individual(s) responsible for conducting reviews?.....
- (4) Describe distribution of reports to management?.....
- (5) Indicate location of records showing results of reviews?.....

ADDITIONAL COMMENTS:



9.1.8. Subcontracting:

a. A reference to where the policies are found is acceptable if they are not in the QM.....

b. Description of policies which the laboratory follows relative to subcontracting or a statement that the laboratory does not engage in such activities?.....

(1) Procedures followed by the laboratory in selecting competent subcontractors?.....

(2) Procedures followed by the laboratory when reporting results of testing performed by subcontractors?.....

ADDITIONAL COMMENTS:

**11.0 RECORDS AND REPORTING REQUIREMENTS**

(ASTM C 1077, D 3666, D 3740, E 329)

Note: A "D" indicates a deficiency exists and "S" denotes satisfactory

11.1. System of Records:

- a. Does the laboratory maintain a system of records that permits verification of any issued report?.....
- b. Are reports and records retained for at least three years?.....
- c. Do the test records include the name of the person performing the tests?.....

11.2. Maintenance of Records:

- 11.2.1. Detailed results (i.e. worksheets) of all required equipment calibration and verification?.....
- 11.2.2. Results of internal audits?.....
- 11.2.3. Results of any on-the-job training performed including:
  - (1) Name of person?.....
  - (2) Date of training?.....
  - (3) By whom?.....
  - (4) Type of training?.....
- 11.2.4. Results of any activities performed to ensure continued competence in performing standard test methods including:
  - (1) Name of person?.....
  - (2) Date of competency check?.....
  - (3) By whom?.....
  - (4) Type of activity?.....
- 11.2.5. Results of audits and inspections?.....
  - (1) Certifications of laboratory personnel with applicable dates?.....
- 11.2.6. Records of verification of competency of any external org. used?.....
- 11.2.7. Records or resumes that document each person's:
  - (1) Qualifications?.....
  - (2) Work experience?.....
  - (3) Training history?.....

11.3. Reports:

- 11.3.1. Name and address of the laboratory?.....
- 11.3.2. Date the report was issued and date the test was performed?.....
- 11.3.3. Name of the client?.....
- 11.3.4. Identification of the report, project, name and title of the person technically responsible for the report, and standard test method(s)?.....
- 11.3.5. Specific identification and description of the test specimen including field identification and detailed location (i.e., horizontal and vertical coordinates of the sample source)?.....
- 11.3.6. Date the test sample was received by the laboratory?.....
- 11.3.7. Standard test method(s) used with a notation of all known deviations from the referenced method(s) or requirements of the method(s), or both, not performed by the laboratory? .....
- 11.3.8. Identification of test results or other data, or both, obtained from subcontractor(s)? .....
- 11.3.9. Results and other pertinent data required by the test method used?.....
- 11.4. Accurately and clearly present the specified test results and all pertinent data?.....
- 11.5. Clearly reference the report being amended for corrections or additions? .....

Additional Comments:



**AGGREGATE TEST EQUIPMENT CALIBRATION AND VERIFICATION REQUIREMENT**

ITEM	ASTM C-1077 specified interval (mo.)	Lab specified interval	Calibrate Verify  C/V within interval	Written Procedure  In QM or reference location	Written Procedure  C/V Equipment listed	Record  Model & Serial No.	Record  Employee Name	Record  C/V equipment ID	Record  Date C/V	Record  Next C/V date	Record  Previous C/V date	Record  Detailed results	Record  Reference C/V procedure
Mechanical Sieving Devices - C 136, (check period of agitation)	12												
Sieves - E11, (check accuracy)	12												
Sieve Washing Efficiency - C 117	12												
Specific Gravity and Absorption - C 127, C 128, (duplicate tests)	6												
Balances (calibrate)	12												
OPTIONAL EQUIPMENT													
Unit Mass Measure - C 29, (calibrate)	12												
Hydrometer - C 88, (calibrate)													
Los Angeles Machine & Steel Spheres - C 131, C 535, (check dimensions & mass)													
Ovens (check temperature)													
Sample Splitter - C 702, (check opening numbers & widths)													

Additional Comments:

## BITUMINOUS TEST EQUIPMENT CALIBRATION AND VERIFICATION REQUIREMENT

ITEM	ASTM D-3666 specified interval (mo.)	Lab specified interval	Calibrate Verify  C/V within interval	Written Procedure  In QM or reference location	Written Procedure  C/V Equipment listed	Record  Model & Serial No.	Record  Employee Name	Record  C/V equipment ID	Record  Date C/V	Record  Next C/V date	Record  Previous C/V date	Record  Detailed results	Record  Reference C/V procedure
Saybolt Viscometers - D 244 (calibrate)	36												
Mechanical Shakers (verify length of time for efficiency)	12												
Gen. Purpose Balances, Scales & Weights (verify)	12												
Test Thermometers - D 5, D 70, D 113, D 2041, D 2170, D 2171, D 3142 (calibrate)	6												
Analytical Balances & Weights (verify)	24												
Compression Test Machine - D 074, D 1075, D 1559, D 1560 (verify load indications)	12												
CA Kneading Compactor, D 1561 (calibrate)	24												
Timers, D 2170, D 2171 (check accuracy)	6												
Ovens (verify temperature settings)	4												
Penetrometer & Accessories, D 5 (check dial and timer accuracy and needle condition)	6												
Ductility Machine, D 113 (check molds and speed of travel)	12												
TFO & RTFO Oven, D 1754, D 2872 (shelf/carriage check rotation speed and temperature)	12												
Vacuum System, D 2041 (check pressure)	12												
Sieves, C 136 (check sieve accuracy/phys condition, E11)	6												

ADDITIONAL COMMENTS:

**BITUMINOUS TEST EQUIPMENT CALIBRATION AND VERIFICATION REQUIREMENT (CON'T)**

ITEM	ASTM D-3666 specified interval (mo.)	Lab specified interval	Calibrate Verify  C/V within interval	Written Procedure  In QM or reference location	Written Procedure  C/V Equipment listed	Record  Model & Serial No.	Record  Employee Name	Record  C/V equipmen t ID	Record  Date C/V	Record  Next C/V date	Record  Previous C/V date	Record  Detailed results	Record  Reference C/V procedure
Molds, Followers, Calibration cylinders, D 1560, D 1561 (check critical dimensions)	12												
Molds, Manual Compaction. Hammers, Breaking Heads, D 1559 (check critical dimensions and mass of hammer)	12												
Molds & Plungers, D 1074 (check. critical dimensions)	12												
Brass Rings & Assembly, D36 (check critical dimensions)	12												
Pycnometers , D 70 (check critical dimensions and physical condition)	12												
Collars & Floats, D 139 (check critical dimensions)	12												
Flow Meters , D 1856, D 2872 (calibrate)	12												
Water, Oil and Air Bath (verify temperature)	6												
Molds and Tampers, C 128 (check critical dimensions)	24												
Flash Cups - D 92, D 3143 (check critical dimensions)	12												

ADDITIONAL COMMENTS:

### CONCRETE TEST EQUIPMENT CALIBRATION AND VERIFICATION REQUIREMENT

ITEM	ASTM C-1077 specified interval (mo.)	Lab specified interval	Calibrate Verify  C/V within interval	Written Procedure  In QM or reference location	Written Procedure  C/V Equipment Listed	Record  Model & Serial No.	Record  Employee Name	Record  C/V equipment ID	Record  Date C/V	Record  Next C/V date	Record  Previous C/V date	Record  Detailed results	Record  Reference C/V procedure
Slump Cones, C 143 (check dimensions)	12												
Unit Weight Measures, C 138 (calibrate)	12												
Pressure Air Meters, C 231 (calibrate)	3												
Metallic Reusable Molds, C 31 (check critical dimensions)	12												
Single Use Molds, C 39 (check critical dimensions)	Each shipment												
Compressive Test Machines, C 39 (verify load indications, E4)	12												
Capping, C 617 (check strength)	3												
Balances, Scales, & Weights (verify)	12												
Ovens (verify temperature settings)	12												
Thermometers, C 1064 (calibrate, E 77)	12												
OPTIONAL EQUIPMENT													
Vibrator - C 31, (check vibration frequency)													
Flexure Test Apparatus - C 78, C 293, (check planeness of support blocks)													
Beam Molds - C 31, (check dimension surfaces, & water tightness)													
Capping Device - C 617, (check alignment, planeness, smoothness)	Daily												
Melting Pot - C 617, (check material temperature)													

ADDITIONAL COMMENTS:

## ROCK TEST EQUIPMENT CALIBRATION AND VERIFICATION REQUIREMENT

ITEM	ASTM D 3740 specified interval (mo.)	Lab specified interval	Calibrate Verify C/V within interval	Written Procedure In QM or reference location	Written Procedure C/V Equipment Listed	Record Model & Serial No.	Record Employee Name	Record C/V equipment ID	Record Date C/V	Record Next C/V due date	Record Previous C/V date	Record Detailed results	Record Reference C/V procedure
Gen. Purpose Balances, Scales, & Weights D 4612, D 4644, D 5220, D 5240, D 5312, D 5313 (verify)	12												
Compression or Loading Device, D 2664, D 2936, D 2938, D 3148, D 3967, D 4341, D 4405, D 4406, D 5407 (verify load indications)	12												
Ovens, D 4612, D 4644, D 5220, D 5240, D 5312, D 5313 (verify temperature settings)	4												
Sieves, D 4644 (check sieve accuracy/phys condition, E 11)	6												
Dial Gages, LVDT, Micrometer, D2664, D3148, D4341, D4394, D4395, D4403, D4405, 4406, D4435, D 4436, D4506, D4535, D4543, D4553, D4554, D4555, D4729, D4971, D5335 (verify indications)	6												
Pressure Gage & Transducer, D 4394, D 4395, D 4525, D 4406, D 4506, D 4553, D 4554, D 4630, D 4631, D 4645, D 4729, D 4971, D 5407 (calibrate)	6												
Load Cell, D 4394, D 4395, D 4435, D 4436, D 4553, D 4555 (calibrate)	12												
Flow Meter, D 4630, D 4631, D 4525 (calibrate)	12												
Thermal Meter & Transducer, D 4341, D 4405, D 4406, D 4535, D 4611, D 4612, D 5334, D 5335 (calibrate)	12												
Sonic Transducer, D 2845	6												

ADDITIONAL COMMENTS:



## SOILS TEST EQUIPMENT CALIBRATION AND VERIFICATION REQUIREMENT

ITEM	ASTM D 3740 specified interval (mo.)	Lab specified interval	Calibrate Verify  C/V within interval	Written Procedure  In QM or reference location	Written Procedure  C/V Equipment Listed	Record  Model & Serial No.	Record  Employee Name	Record  C/V equipmen t ID	Record  Date C/V	Record  Next C/V due date	Record  Previous C/V date	Record  Detailed results	Record  Reference C/V procedure
Mechanical Shakers (verify length of time for efficient sieving)	12												
Gen. Purpose Balances, Scales, & Weights (verify)	12												
Compression or Loading Device, D1883, D2166, D2435, D2850, D3080 (verify load indications)	12												
Mechanical Compactor, D698, D1557 (calibrate)	12												
CA Kneading Compactor, D2844 (calibrate)	24												
Ovens (verify temperature settings)	4												
Vacuum System D854 (check. pressure)	24												
Molds, D698, D558, D559, D560, D1557, D1883, D2844 (ck. critical dimensions)	12												
Manual Hammer, D698, D1557 (check. wt. & critical dimensions)	12												
Sieves, D422 (check. sieve accuracy/phys. condition, E11)	6												

ADDITIONAL COMMENTS:

## SOILS TEST EQUIPMENT CALIBRATION AND VERIFICATION REQUIREMENT (CON'T)

ITEM	ASTM D 3740 specified interval (mo.)	Lab specified interval	Calibrate Verify  C/V within interval	Written Procedure  In QM or reference location	Written Procedure  C/V Equipment Listed	Record  Model & Serial No.	Record  Employee Name	Record  C/V equipmen t ID	Record  Date C/V	Record  Next C/V due date	Record  Previous C/V date	Record  Detailed results	Record  Reference C/v procedure
Liquid Limit Device, D4318 (check wear & critical dimensions)	12												
Grooving Tool, D4318 (check critical dimensions)	12												
Hydrometers, D422 (check critical dimensions)	24												
Straightedge, D698, D558, D559, D560, D1557 (check planeness of edge)	6												
Weighted Foot assembly, D2419 (check weight)	12												
CBR Annular and Slotted Weights, D1883 (check weight)	12												
CBR Penetration Piston, D1883 (check diameter)	12												
Standard Metal Specimen, D2844 (check outside diameter)	12												
Metal Follower, D2844 (check diameter)	12												

ADDITIONAL COMMENTS: